

IN THE CLAIMS:

1.-7. (Cancelled)

8. (Currently amended) A flow detection element comprising:

a resistor formed on ~~one of surfaces~~ a surface of a substrate [,] which generates heat by current flowing in said resistor;

a glass layer covering said resistor;

a metal film formed on one of said glass layer ~~or~~ and another surface of said substrate.

9. (Currently amended) A flow detection element according to claim 8, wherein said resistor but not said metal film has a conductor extending to one side of said substrate, ~~and said metal film has not a conductor extending to said side of said substrate.~~

10. (Currently amended) A flow-measurement apparatus comprising:

a housing containing an auxiliary gas passage through which a part of gas flowing in a main gas passage, whose wall is made of resin, passes;

a sensor element situated in said auxiliary passage; and

a metal thin film ~~covering a part or the whole of~~ formed on the inside surface of said wall of said main gas passage.

11. (Cancelled)

12. (Original) A flow-measurement apparatus comprising:
a housing containing an auxiliary gas passage through which a part of gas flowing in a main gas passage passes;
a sensor element situated in said auxiliary passage; and
plates situated on outer surfaces of said housing via respective gaps.

13. (Currently amended) A flow-measurement apparatus according to claim 12, wherein said plates are made of metal or material whose emissivity is smaller than that of ~~said members composing~~ said housing.

14. (Original) A flow-measurement apparatus according to claim 12, wherein said plates are situated in parallel with the axis of said main gas passage.

15. (Original) A flow-measurement apparatus comprising:
a housing containing an auxiliary gas passage through which a part of gas flowing in a main gas passage;
a sensor element situated in said auxiliary passage; and
resin skirts situated at both sides of said housing via respective gaps, said sides being in parallel with the axis of said main gas passage.

16. (Currently amended) A flow-measurement apparatus comprising:
a housing containing an auxiliary gas passage through which a part of gas flowing in a main gas passage passes;

a sensor element situated in said auxiliary passage; and
metal thin films ~~covering a part or the whole of~~ formed on surfaces of said housing.

17. (Currently amended) A physical quantity-detecting apparatus for an engine, said apparatus comprising:

a resin housing having a gas introducing portion which is opened to a main gas passage;

a detector element for detecting a physical quantity of gas passing through said ~~fluid~~ gas introducing portion; and

metal thin films covering ~~a part or the whole of~~ surfaces of said housing.

18. (Currently amended) A physical quantity-detecting apparatus for an engine, said apparatus comprising:

a resin housing having a gas introducing portion which is opened to a main gas passage;

a detector element for detecting a physical quantity of gas passing through said ~~fluid~~ gas introducing portion; and

thin films ~~covering a part or the whole of~~ formed on surfaces of said housing;

wherein the emissivity of said thin films is smaller than that of members composing said housing.

19. (Original) A physical-quantity-detecting apparatus for an engine according to claim 18, wherein said thin films are made of metal.

20. (Currently amended) A physical quantity-detecting apparatus for an engine according to claim 18, wherein said physical quantity is ~~one~~ selected from a group of quantities consisting of flow rate, temperature, pressure, and a component of said gas.

21. (Currently amended) A physical quantity-detecting apparatus for an engine according to claim 18, wherein said main gas passage is ~~one~~ selected from a group of passages consisting of an air-intake pipe, a gas-exhaust pipe, a bypass passage of said air-intake pipe, and a bypass of said gas-exhaust pipe.

22. (Currently amended) A physical quantity-detecting apparatus for an engine according to claim 19, wherein said metal thin films are formed by ~~one~~ a method selected from a group consisting of a plating method, an evaporation method, and a sputtering method.

23. (Original) A physical quantity-detecting apparatus for an engine according to claim 19, wherein an average thickness of said respective metal thin films is less than 0.1 mm.

24. (Currently amended) A physical quantity-detecting apparatus for an engine according to claim 19, wherein each metal thin film is made of a

plurality of flakes , ~~which are partially or totally connected to, or disconnected from each other.~~

25. (Currently amended) A physical quantity-detecting apparatus for an engine according to ~~any one of claims 15—20~~ claim 17, wherein a main component of said metal thin films contains at least one of nickel, gold, copper, aluminum, palladium, platinum, silver and zinc.

26. (Original) A physical quantity-detecting apparatus for an engine according to claim 18, wherein said thin films are formed on outer surfaces of said housing, which are parallel with the axis of said main gas passage, and are opposite to each other.

27. (Cancelled)

28. (Currently amended) An engine system comprising:
an engine;
a physical quantity-detecting apparatus for an engine according to ~~any one of claims~~ claim 17 and 18;
fuel-feed means for feeding fuel to said engine; and
control means for controlling said fuel-feed means based on an output signal of said physical quantity-detecting apparatus for an engine;
wherein a the main passage described in claims 17 and 18, is ~~one~~ selected from a group consisting of an air-intake pipe, a gas-exhaust pipe, a bypass

passage of said air-intake pipe, and a bypass of said gas-exhaust pipe in said engine.

29. (New) A physical quantity-detecting apparatus for an engine according to Claim 16, wherein a main component of said metal thin films is at least one metal selected from a group consisting of nickel, gold, copper, aluminum, palladium, platinum, silver and zinc.

30. (New) A physical quantity-detecting apparatus for an engine according to Claim 17, wherein a main component of said metal thin films is at least one metal selected from a group consisting of nickel, gold, copper, aluminum, palladium, platinum, silver and zinc.

31. (New) A physical quantity-detecting apparatus for an engine according to Claim 18, wherein a main component of said metal thin films is at least one metal selected from a group consisting of nickel, gold, copper, aluminum, palladium, platinum, silver and zinc.

32. (New) A physical quantity-detecting apparatus for an engine according to Claim 19, wherein a main component of said metal thin films is at least one metal selected from a group consisting of nickel, gold, copper, aluminum, palladium, platinum, silver and zinc.

33. (New) A physical quantity-detecting apparatus for an engine according to Claim 20, wherein a main component of said metal thin films is at least one metal selected from a group consisting of nickel, gold, copper, aluminum, palladium, platinum, silver and zinc.

34. (New) An engine system comprising:
an engine;
a flow-detection element according to claim 8;
fuel-feed means for feeding fuel to said engine; and
control means for controlling said fuel-feed means based on an output signal of said flow-measurement apparatus;
wherein a main passage in the flow-detecting element is selected from a group consisting of an air-intake pipe and a bypass passage of said air-intake pipe in said engine.

35. (New) An engine system comprising:
an engine;
a flow-measurement apparatus according to claim 10;
fuel-feed means for feeding fuel to said engine; and
control means for controlling said fuel-feed means based on an output signal of said flow-measurement apparatus;
wherein the main passage is selected from a group consisting of an air-intake pipe and a bypass passage of said air-intake pipe in said engine.

36. (New) An engine system comprising:
an engine;
a flow-measurement apparatus according to claim 12;
fuel-feed means for feeding fuel to said engine; and
control means for controlling said fuel-feed means based on an output
signal of said flow-measurement apparatus;
wherein the main gas passage is selected from a group consisting of an air-
intake pipe and a bypass passage of said air-intake pipe in said engine.

37. (New) An engine system comprising:
an engine;
a flow-measurement apparatus according to claim 15;
fuel-feed means for feeding fuel to said engine; and
control means for controlling said fuel-feed means based on an output
signal of said flow-measurement apparatus;
wherein the main gas passage is selected from a group consisting of an air-
intake pipe and a bypass passage of said air-intake pipe in said engine.

38. (New) An engine system comprising:
an engine;
a flow-measurement apparatus according to claim 16;
fuel-feed means for feeding fuel to said engine; and
control means for controlling said fuel-feed means based on an output
signal of said flow-measurement apparatus;

wherein the main gas passage is selected from a group consisting of an air-intake pipe and a bypass passage of said air-intake pipe in said engine.

39. (New) An engine system comprising:

an engine;

a physical quantity-detecting apparatus for an engine according to claim 18;

fuel-feed means for feeding fuel to said engine; and

control means for controlling said fuel-feed means based on an output signal of said physical quantity-detecting apparatus for an engine;

wherein the main gas passage is selected from a group consisting of an air-intake pipe, a gas-exhaust pipe, a bypass passage of said air-intake pipe, and a bypass passage of said gas-exhaust pipe in said engine.